

Yehonatan Ezra

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Summary

Computer Science student at Hebrew University of Jerusalem with strong coding skills in C/C++, Python, Java. Creative and motivated with problem-solving, interpersonal skills. Independent collaborator committed to inventing solutions under pressure. Former IDF Navy deputy commander, where I led a 12-person team in high-pressure situations. Currently combining my academic ambitions with competitive athletics as a long-distance runner.

Education

- B.Sc. in Computer Science, Hebrew University of Jerusalem** Expected 2026
GPA: 88. Key Courses: Discrete Math (100), Nand to Tetrakis (94), Data Structures (95), Databases (91), Algorithms(88), Control and Learning (89), Cybersecurity (pass). Machine Learning & Data Science & Computer Vision 3D (in progress).
 - University of British Columbia** - Semester abroad as Hebrew University representative. 09/2024–01/2025
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Technical Skills

- Languages:** Python, C/C++, Bash, Java, JavaScript, SQL.
 - Infrastructure & Tooling:** Linux, Git, Docker, CI/CD, Cloud, LLMs.
 - Cybersecurity & Networking:** AES, CBC, CTR, ECC, DH, RSA, IPsec, SSH, TCP/UDP.
 - OS:** User-level threads, Synchronization primitives (mutex, semaphore, barrier), Signals, Virtual Memory.
 - ML & Data:** scikit-learn, Pandas, NumPy, ML pipelines for classification, regression, clustering.
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Projects

Secure VPN - Encrypted Messaging System (Python, Cryptography) - GitHub

- Engineered a secure VPN protocol over UDP from scratch, ensuring confidentiality, integrity, and authentication.
- Architected the protocol using Diffie-Hellman ratcheting for forward secrecy and per-message key rotation.
- Implemented AES-CBC + HMAC-SHA256 with replay protection and freshness validation.
- Developed a reliable transport layer with a custom ACK mechanism to overcome packet loss and delays.
- Built GUI client/server with MITM proxy to test replay, delay, drop, and tampering resilience.

Job Scanner - Resume Tailoring Module (Python, Flask, APIs) - GitHub

- Designed and implemented the Job Scanner module that aggregates job postings from five public APIs.
- Reverse-engineered a hidden Airtable APIs to access raw listings.
- Built a multithreaded aggregation engine with caching for high-performance querying.
- Integrated as part of a broader platform that tailors resumes to job descriptions using LLMs.

User-Level Thread Library (C++, Linux, Signals) - GitHub

- Implemented a user-level threading library with preemptive round-robin scheduling using SIGVTALRM.
 - Built custom TCBs, independent stacks, and context switching via `sigsetjmp/siglongjmp`.
 - Added support for thread creation, sleep, blocking, resuming, and safe termination with race-free signal masking.
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Professional Experience

Cyber Education Center, Instructor 06/2025–Present

- Provided mentorship to high school students in computer science and cybersecurity fundamentals.

Private Tutor for Calculus, Hebrew University of Jerusalem 10/2021–02/2022

Provided one-on-one tutoring in infinitesimal calculus for Hebrew University students.

Deputy Commander of Shaldag-class Warship, IDF - Israel Navy 02/2017–11/2019

- Led a 12-person team in high-risk maritime operations, maintaining critical systems under pressure.
 - Completed the Commanders' Course, focusing on leadership and tactical decision-making.
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Extracurricular

Athlete, Competitive runner 09/2022–Present

- Represented UBC XC Team - 1st Place, 2024 Canadian XC Championship.
- Competing in Israel National Championships (1,500m–10k).

Hebrew University Running Team 09/2024–Present

- Founded and coached the university's long-distance running team, mentoring student athletes.
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Volunteer

- Etgirim** - Supported athletes with disabilities in adaptive sports, honing teamwork skills. 01/2020–09/2021
- Scouts** - Guided youth with special needs, organized camps & skill workshops. 09/2014–07/2016